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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/416,779	10/13/1999	FRANCO P. PREPARATA	BUV-003.01	6623

28120 7590 07/01/2005

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EXAMINER

CLOW, LORI A

ART UNIT	PAPER NUMBER
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1631

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/416,779	<b>Applicant(s)</b> PREPARATA ET AL.	
	<b>Examiner</b> Lori A. Clow, Ph.D.	<b>Art Unit</b> 1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7,8,10-12,23-26,28 and 29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7,8,10-12,25,26,28 and 29 is/are rejected.
- 7) ☒ Claim(s) 23 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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### **DETAILED ACTION**

Applicant's argument filed 7 September 2004 have been considered. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Claims 7, 8, 10-12, 23-26, 28, and 29 are currently pending.

Unfortunately, upon further consideration of the claims, the indication of allowance has been withdrawn. The Examiner appreciates Applicants willingness to further prosecution by previously agreeing to an Examiner's amendment. However, upon further search and consideration, a new grounds of rejection will be set forth below. The Examiner apologizes for any inconvenience to the Applicants.

In view of the new grounds of rejection, the previous rejections under 35 USC 102 and 35 USC 103 in the Office Action of 05 April 2005 have been withdrawn, thereby rendering Applicants arguments with regard to Candrian et al. and Bergstron et al. moot.

#### **Claim Objections**

Claims 23 and 24 are objected to because of the following informalities: Claims 23 and 24 depend from cancelled claim 20. Appropriate correction is required.

#### **Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 7, 8, 10-12, 25, 26, 28, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Loakes et al. (Nucleic Acids Research (1995) Vol. 23, No. 13, pages 2361-2366; Reference AI; PTO Form 1449 submitted 8/22/2000), as evidenced by Pon (Methods in Molecular Biology: Protocols for Oligonucleotides and Analogs, Eds. S. Agrawal, Humana Press, Totowa 1993, pages 465-496).

In regard to claims 7, 8, 28 and 29, Loakes et al. teach oligonucleotides and sets of oligonucleotides that comprise both designate and universal nucleotides in various iterative patterns (Table 1). It is noted that the claim does not necessarily require a universal nucleotide **and** a nucleotide analog at steps (a) and (b), therefore the pattern established by Loakes et al. meet the limitations of the claim. Further, Loakes et al., as evidenced by Pon teach the preparation of the oligonucleotides on a pore glass support (page 2361, column 2, Materials and Methods), which meets the limitations of a solid support and a substrate. The pore glass supports

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(CPG beads), as taught by Pon would provide the solid support and substrate of the instant claims (see Pon page 477 paragraphs 2 to page 479, paragraph 2). In addition, in the specification, a support is not limited to be a support in which oligonucleotides are attached in a contiguous manner (see page 30, lines 1-8), lending to a reasonable view that a collection of beads could be utilized, as in Loakes et al.

In regard to claim 10, Loakes et al. teach the universal bases 5-nitroindole and 3-nitropyrrole (page 2361, abstract).

In regard to claims 25 and 26, Loakes et al. discloses a particular primer in Table 1 that includes universal nucleotides ordered in a pattern consisting of --I --I --I etc. The pattern comprises a root and an iterated root and the length of the root is identical to the length of the iterated root. In this case the iterated unit could be a repeat of the root itself, as there is no definition of what is a root and what is an iterated unit in the specification. For instance, the root could comprise the two normal nucleotides followed by the 5-nitroindole, in which case the root is repeated. Also, there is nothing that states that the two normal nucleotides making up the root cannot change. Therefore, Loakes et al. meet the limitations of the instant claim.

### **Inquiries**

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The Central Fax Center Number is (571) 273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lori A. Clow, Ph.D., whose telephone number is (571) 272-0715. The examiner can normally be reached on Monday-Friday from 10 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin Marschel, Ph.D., can be reached on (571) 272-0718.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

June 25, 2005  
Lori A. Clow, Ph.D.  
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*Lori A. Clow*

*Ardin H. Marschel 6/25/05*  
**ARDIN H. MARSCHEL**  
**SUPERVISORY PATENT EXAMINER**